Workshop Regarding Regulatory Fuels Activities

August 29, 2001

California Environmental Protection Agency

Air Resources Board

Agenda

- Introductions
- Review of De Minimis Levels for MTBE and Other Oxygenates in CaRFG3
- Results from the California Energy Commission Survey of Ethanol Producers
- Ongoing Work on Commingling from the Effects of Ethanol in Gasoline
- Ongoing Work on Permeation from the Effects of Ethanol in Gasoline
- Development of CaRFG3 Vehicle Certification Fuel Standard Regulations
- Presentations from Others
- Open Discussion
- Closing Remarks

MTBE De Minimis Levels

- Limited analysis has found the presence of MTBE, MSBE, tert-pentanol, TAME, and other oxygenate at trace levels in a commercial iso-octane.
- Analyses have shown that sample of commercial iso-octane can contain about 0.055 weight percent oxygen from various trace oxygenates.
- Will work with stakeholders to gather more information.

MTBE De Minimis Levels

- Review current CaRFG3 MTBE de minimis limits
- Consider changing current MTBE de minimis limits to oxygen content equivalent

Oxygenate	Volume Percent	Weight Percent Oxygen
MTBE	0.30	0.06
MTBE	0.15	0.03
MTBE	0.05	0.01

Relative Oxygen Content Compared to MTBE

Oxygenate*	Oxygen Content Relative to MTBE
MTBE	1.00
TAME	0.86
ETBE	0.86
DIPE	0.86
C8 Ether	0.68
Methanol	2.74
Ethanol	1.91
Propanols	1.47
Butanols	1.19

MTBE De Minimis Levels

- Consider delaying the implementation date of the 0.03 weight percent limit for oxygen by six months
  - Allows more time to collect data on non-ethanol oxygenates that may be present in gasoline, blendstocks, and ethanol
  - And, also allows time for the public process to amend the regulations if the current limits and time frame are not supported by collected data
- Expected to bring to the Board for consideration in November 2001

Ongoing Work on Commingling from the Effects of Ethanol in Gasoline

Ongoing Work on Commingling

- Board prohibited use of MTBE beginning December 31, 2002
- Federal oxygen requirement still in place
  - Ethanol will be only allowable oxygenate
  - 70% of California fuel
  - Waiver request denied in June, partially due to U.S EPA uncertainty on commingling impacts
- Board directed the staff to further evaluate real-world impacts of mixing (commingling) ethanol and non-ethanol gasoline

Evaluation of Real-World Impacts

- ARB Commingling Study
  - Established ARB/Industry working group
  - Vehicle fuel sampling program
  - Evaluate consumer refueling practices

ARB/Industry Commingling Study Working Group

- Working group established April 2001
- Participants include ethanol, petroleum and auto industries
- Three meetings held to date
- Discussions regarding ongoing development and implementation of the fuel sampling program
  - Results from preliminary field work
  - Need for additional focused study to capture ethanol blends
- Next meeting expected in September

Commingling Study
Vehicle Fuel Sampling Program

- Goals of field study are to determine base fuel RVP prior to commingling and verify RVP boost
- Completed preliminary Bay Area Field Work
  - Two days, six stations
  - 99 vehicles
  - About 60% sampling success rate
  - Revealed only minor revisions needed to protocol

Commingling Study
Vehicle Fuel Sampling Program, con't

- Completed actual testing in Lake Tahoe
  - Three days, nine stations
  - 175 vehicles
  - About 70% sampling success rate
- Testing to be completed in Bay Area and Los Angeles during August & Sept.
- Additional field testing of ethanol blends may be needed

Commingling Study
Consumer Refueling Habits Evaluation

- Intent is to verify commingling model inputs on consumer refueling habits
- Continuing efforts to fulfill staff's data needs regarding consumer refueling practices
  - Will be requesting information from industry on existing marketing data

Ongoing Work on Permeation from the Effects of Ethanol in Gasoline

Ongoing Permeation Emission Evaluation

- Contract completed to investigate potential permeation emissions losses
  - Performed literature search for permeation rates with ethanol and non-ethanol gasolines
    - Confirms ethanol increases permeation emission losses
    - literature search results have been posted on our web page
  - Gathered data on permeable fuel system materials in vehicle fleet to estimate statewide permeation emissions
  - Proposed test program to generate experimental data on permeation emissions from use of ethanol
- Final report is available on the ARB's Cleaner-Burning Gasoline webpage

Ongoing Permeation Emission Evaluation (continued)

- The ARB staff is considering a joint permeation emissions testing program with the CRC.
- Experimental details have not yet been worked out.
- Staff will report to the Board on its progress by the end of the year.

Development of CaRFG3 Vehicle Certification Fuel Standard Regulations

CaRFG3 Certification Fuel

- Plan regulatory update to the CaRFG2 certification fuel specifications
- Will work closely with auto, oil, and ethanol industries and the ARB Mobile Source Control Division
- Scheduled for consideration by the ARB Board in fall 2002

Presentations by Others

Open Discussion

Closing Remarks